

Appl. No. 09 / 587,270
Amdt. Dated December 17, 2003
Reply To Office action of September 30, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-3 (CANCELED)

Claim 4 (NEW). A variable wavelength impulse transmission method, comprising:

sending one-cycle electromagnetic impulse(s) without carrier wave;

AD wherein data is encoded in ^{the} said transmission by choosing an appropriate wavelength for each of ^{the} said impulses according to ^a the respective value of data being sent;

receiving said impulses and decoding the data carried by them.

Claim 5 (NEW). A variable wavelength impulse transmission method according to claim 4, comprising:

wherein said impulses are sent in certain intervals;

^{the} wherein data is optionally encoded in said transmission as a combination of ^{the} said wavelength encoding, and impulse position encoding, said impulse position encoding comprising choosing an appropriate position for each of said impulses in an impulse transmission interval according to the respective value of data being sent.

Claim 6 (NEW). A variable wavelength impulse transmission method according to claim 4, comprising:

wherein ^athe wavelength of the received impulse is recognized by measuring ^athe time difference between the positive and negative amplitude maximums of its AC equivalent.

Claim 7 (NEW). A variable wavelength impulse transmission method according to claim 5, comprising:

wherein it is reserved an own reception channel for each unique type of impulse used in said transmission according to the combination of the impulse wavelength and the impulse position in a transmission interval;

wherein a said reception channel amplifies the received impulse with an AC impulse that corresponds the impulse type for which said channel is reserved;

wherein ^{the}said amplified impulses are compared between ^{reception}the reception channels to find the one which is the most intense, the right type of the received impulse being denoted as ^{an}the assigned impulse type of the reception channel which yielded ^{the}said most intense amplified impulse.

Claim 8 (NEW). A variable wavelength impulse transmission method according to claim 5, comprising:

wherein ^athe cue of impulses in the transmission is divided in transmission channels either by assigning every nth impulse for a single channel, or by determining an order path according to which the impulses are assigned for each channel.

Claim 9 (NEW). A variable wavelength impulse transmission method according to claim 5, comprising:

wherein the used impulse wavelengths are allocated between separate overlapping transmissions so that the transmissions interfere with each other as little as possible;

wherein ^{the}said allocation is optionally done constantly in real-time.

Claim 10 (NEW). A variable wavelength impulse transmission method according to claim 6, comprising:

wherein it is used electric impulses instead of electromagnetic impulses in said transmission.

Claim 11 (NEW). A variable wavelength impulse transmission method according to claim 7, comprising:

wherein it is used electric impulses instead of electromagnetic impulses in said transmission.

Claim 12 (NEW). A wireless communication system, comprising:

two wireless communication devices;

transmitting data between ^{the} said devices;

wherein ^{the} said transmission happens using one-cycle electromagnetic impulses which are sent without carrier wave;

wherein the transmitting device is capable to choose ^a the wavelength for ^{the} said impulses from among two or more different wavelengths.

Claim 13 (NEW). A wireless communication system according to claim 12, comprising:

wherein said devices are capable to transmit and receive data using simultaneously two or more different wavelengths of said impulses.

Claim 14 (NEW). A wireless communication traffic organization system, comprising:

multiple wireless communication devices;

wherein ^{the} said devices use a transmission method, where data is transmitted without carrier wave, using one-cycle electromagnetic impulses;

wherein different impulse wavelengths are allocated for different use.

Claim 15 (NEW). A wireless communication traffic organization system according to claim 14, comprising:

wherein ^{the} allocation is done so that ^{an} overlapping transmissions interfere with each other as little as possible;

wherein said allocation is optionally done constantly in real-time.

Claim 16 (NEW). A wireless communication traffic organization system according to claim 14, comprising:

wherein said allocation is done according to ^{an} the ability of different wavelength impulses to pass obstacles and / or according to ^a the needed transmission power of different wavelength impulses;

wherein said allocation is optionally done constantly in real-time.